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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,212	09/30/2003	Roy E. Scheuerlein	023-0024	9946
22120	7590	10/13/2004	EXAMINER	
ZAGORIN O'BRIEN & GRAHAM, L.L.P.			HO, HOAI V	
7600B N. CAPITAL OF TEXAS HWY.			ART UNIT	
SUITE 350			PAPER NUMBER	
AUSTIN, TX 78731			2818	

DATE MAILED: 10/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/675,212

Applicant(s)

SCHEUERLEIN ET AL.

Examiner

Hoai V. Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

1. Claims 1-56 are presented for examination.

***Claim Rejections - 35 USC § 112***

2. Claims 25 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25, line 1 and 2, "wherein X-lines comprise bit lines" is unclear and confusing. How does it relate to claim 1 and a paragraph [1030] of the specification?

Similarly, claim 27, lines 1-4, how do the claimed limitations relate to claim 1.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8, 9, 13-24, 26, 28-33, 37-43, 46-53 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. U.S. Patent no. 5337281 in view of Kato et al. U.S. Patent no. 6741509.

Figure 2 of Kobayashi discloses a nonvolatile memory cell array (1, fig. 1) comprising a first plurality of X-lines (WL1-WL2), and each associated with a first Y-line group (60 and 61) numbering at least one Y-line (61).

Kobayashi fails to disclose X-lines configured to be logically identical in a read mode of operation. However, Kato, starting at column 43, lines 37-49, column 47, lines 55-65 or column 61, lines 35-39, discloses X-lines configured to be logically identical in a read mode of operation. It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Kobayashi's nonvolatile memory cell array which configures X-lines to be logically identical in a read mode of operation by simultaneously activating the word lines during read operation as taught by Kato in order to activate a plurality of X-lines (word lines) together by holding once activated word lines in the activated state during a plurality of successive word line selection cycles (col. 5, lines 5-8).

5. Claims 1-5, 8-24, 26 and 28-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheuerlein et al. Pub. no. US20040100852 in view of Kato et al. U.S. Patent no. 6741509.

Figure 5 of discloses a nonvolatile memory cell array (103 of fig. 1) comprising a first plurality of X-lines (108 of fig. 1), and each associated with a first Y-line group (1-4, or 4-6) numbering at least one Y-line. See paragraphs [0048], [0052] and [0063].

Iwata fails to disclose X-lines configured to be logically identical in a read mode of operation. However, Kato, starting at column 43, lines 37-49, column 47, lines 55-65 or column 61, lines 35-39, discloses X-lines configured to be logically identical in a read mode of operation. It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Scheuerlein's nonvolatile memory cell array which configures X-lines to be logically identical in a read mode of operation by simultaneously activating the word lines during read operation as taught by Kato in order to activate a plurality of X-lines (word lines) together

by holding once activated word lines in the activated state during a plurality of successive word line selection cycles (col. 5, lines 5-8).

6. Claims 1-10, 12, 14-24, 26, 28-34, 36, 38-44 and 47-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata et al. Pub. no. US20030161197 in view of Kato et al. U.S. Patent no. 6741509.

As per claims 1, 2, 8-10, 12, 14-24, 26, 28-34, 36, 38-40, 42-44 and 47-54, Figure 109 or 110 of Iwata discloses a nonvolatile memory cell array (11) comprising a first plurality of X-lines (from 23A1), and each associated with a first Y-line group (lines connect to CSW) numbering at least one Y-line.

Iwata fails to disclose X-lines configured to be logically identical in a read mode of operation. However, Kato, starting at column 43, lines 37-49, column 47, lines 55-65 or column 61, lines 35-39, discloses X-lines configured to be logically identical in a read mode of operation. It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Iwata's nonvolatile memory cell array which configures X-lines to be logically identical in a read mode of operation by simultaneously activating the word lines during read operation as taught by Kato in order to activate a plurality of X-lines (word lines) together by holding once activated word lines in the activated state during a plurality of successive word line selection cycles (col. 5, lines 5-8).

As per claims 3-7 and 41, Figures 70-81 of Iwata discloses where the first and second Y-line groups are simultaneously (by CSL1 or CSLj in fig. 109) selectable in a read mode and are respectively coupled to true and complement inputs of a sense amplifier circuit (29B of fig. 109).

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7. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Hurst et al. (US Patent no. 6646912) and Zink et al. (US Patent no. 5946241) disclose a nonvolatile memory device using anti-fuse elements and EEPROM, respectively.

8. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai V. Ho whose telephone number is (571) 272-1777. The examiner can normally be reached on 7:00 AM -- 5:30 PM from Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



hvh

October 5, 2004



Hoai V. Ho  
Primary Examiner  
Art Unit 2818